

REMARKS

Claims 12-13 and 21 are currently pending. Claims 1-11 and 14-20 have been cancelled pursuant to the restriction requirement. The cancellation of the claims is without prejudice or disclaimer. New claim 21 has been added herein. Support for the new claim is as set forth below.

Applicants' Response to the Claim Rejections under 35 U.S.C. 102(b) and 103(a)

Claims 12 and 13 stand rejected under 35 U.S.C. 102(b) as being anticipated by Fjelstad et al. (Patent No. 5,802,699); and alternatively as obvious under 35 U.S.C. 103(a). In regard to the rejection under §102(b), Applicants respectfully traverse on the basis that not all the limitations of claim 12 are set forth in the prior art. The Office Action maintains that claims 12 and 13 of the present invention are disclosed in Fig. 14 of Fjelstad. Also, the Office Action refers to col. 6, line 20ff to point out that the contacts already formed can be deformed by the electrodes.

Applicants respectfully submit that there is no description of a step of forming contacts by plastically deforming the wiring substrate.

According to the present invention, before the contacts touch the electrodes of a device, a contact is formed by plastically deforming the wiring substrate using a jig as illustrated in Figs. 14A and 14B. A reinforcement layer is provided to maintain such plastic deformation. Applicants respectfully submit that the manufacturing steps and final structure of the invention of claims 12 and 13 include limitations which are not disclosed by Fjelstad. Therefore, the claims are not anticipated by the reference.

Applicants additionally respectfully submit that the invention of claims 12 and 13 are not obvious because there is no teaching or motivation provided which would lead one skilled in the art to plastically deform the wiring substrate. Fjelstad only teaches embodiments in which a contact region is slots 44 (see FIG. 3) over the hole 36. The contact is not formed by plastically deforming the wiring substrate. There is no teaching or suggestion for forming the contacts in this manner. Therefore, applicants respectfully submit that the claims would not be obvious.

In regard to new claim 21, applicants respectfully submit that the new claim more distinctly sets forth the subject matter regarded as the invention. Specifically, the structural distinction added is the conduction layer 11 is not penetrated during formation or use of the invention. In other words, the conductive layer is a solid uniform structure at the point of contact 12K with the electrodes. Comparatively, Fjelstad only teaches embodiments in which a contact region has slots 44 (see FIG. 3) over the hole 36. Therefore, the amendment includes a structural limitation that the contacts formed are consistent (i.e., without a break or slot).

Additionally, applicants respectfully submit that a structure with continuous uninterrupted contacts would not be obvious in light of Fjelstad et al. Fjelstad et al. requires holes or slots in the contacts. The Office Action refers to column 17 of the reference. This disclosure includes contacts 578 formed with slots 544 interspersed with projections 542. Column 17, lines 57 to column 18, line 4 teaches that this arrangement wherein the lead bumps penetrate the contacts results in a low inductance connection and very compact arrangement. Further, at column 13, lines 1-6, Fjelstad teaches that the projections 42 and bump leads 70 scrape each other so as to remove debris and oxides from the surface of the bumps. Fjelstad et al.

Application No. 10/629,800
Group Art Unit: 3729

Amendment Under 37 C.F.R. § 1.111
Attorney Docket No. 000339A

therefore teaches away from an embodiment in which the contact is a continuous structure such as 12K of the present invention. Therefore, one skilled in the art would find the structure of the invention of claim 21 contrary to the teachings of Fjelstad et al.

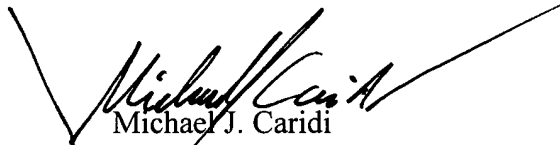
In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP


Michael J. Caridi
Attorney for Applicants
Registration No. 56,171
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

MJC/mlj